**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application Serial No. ..... 10/603,034
Confirmation No. ..... 2361
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Inventorship ..... Jennifer Chayes
Appellant ..... Microsoft Corporation
Group Art Unit ..... 2168
Examiner ..... Jay A. Morrison
Attorney's Docket No. ..... MS1-1474US
Title: News Group Clustering Based on Cross-Post Graph

**REPLY BRIEF**

To: Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

From: Dale G. Mohlenhoff (Tel. 509-944-4738; Fax 509-323-8979)
**Customer No. 22801**

Dear Sir:

Appellants' representative submits this brief in connection with an appeal of the above identified patent application. It appears the Examiner has issued this Examiner's Answer with no changes from the previous Examiner's Answer issued on April 19, 2007. For clarity purposes and acknowledgment of Examiner's Answer, Appellant is re-submitting its previous Reply Brief.

## I. Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))

The real party in interest in the present appeal is Microsoft Corporation, the assignee of the present application.

## II. Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(i))

Appellant, appellant's legal representative, and/or the assignee of the present application are not aware of any appeals or interferences which may be related to, will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

## III. Status of Claims (37 C.F.R. §41.37(c)(1)(ii))

Claims 1-41 stand rejected by the Examiner. The rejection of claims 1-41 is being appealed.

## IV. Status of Amendments (37 C.F.R. §41.37(c)(1)(i))

No amendments were made after the Final Office Action dated June 9, 2006.

## V. Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))

### A. Independent Claim 1

Independent claim 1 recites a computer implemented system that facilitates analyzing news group clusters, comprising the following computer executable components:

a data reception component that receives and recognizes data relating to a plurality of newsgroups *(See e.g.,* page 8, lines 11-19); and

an engine that constructs a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges. *(See e.g.,* page 8, line 24 - page 9, line 5)

### B. Independent Claim 21

Independent claim 21 recites a computer implemented method for creating a weighted news group graph comprising the following computer executable acts:

receiving and recognizing data relating to a plurality of news groups *(See e.g.,* page 8, lines 11-19); and

constructing a weighted graph such that news groups are represented as vertices and cross-posts are represented as edges. *(See e.g.,* page 8, line 24 - page 9, line 5)

C. **Independent Claim 30**

Independent claim 30 recites a computer implemented system that facilitates analyzing news group clusters, comprising the following computer executable components:

a data reception component that receives data relating to a plurality of newsgroups *(See e.g.,* page 8, lines 11-19);

an engine that constructs a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges; and further comprising at least one of the following components *(See e.g.,* page 8, line 24 - page 9, line 5):

a filtering component that facilitates excluding particular newsgroups from being represented in the graph so as to facilitate reducing the size of the graph *(See e.g.,* page 25, lines 21-25);

a paring component that trims edges of the graph with weight less than a threshold weight so as to facilitate reducing the size of the graph *(See e.g.,* page 26, lines 21-29);

a segmenting component that segments the graph *via* spectral clustering *(See e.g.,* page 21, line 16 - page 25, line 18); and

a post-processing component that merges a first cluster into a segment cluster if a sum of weights between the clusters is greater than a threshold. *(See e.g.,* page 27, line 27 – page 28, line 9)

**D. Independent Claim 40**

Independent claim 40 recites a computer implemented method for creating a cluster graph comprising the following computer executable steps:

receiving news group data *(See e.g.,* page 8, lines 11-19);

excluding newsgroups that do not contain a threshold number of postings *(See e.g.,* page 25, lines 21-25);

paring edges with weight below a threshold *(See e.g.,* page 26, lines 21-29);

generating a weighted graph with the news groups represented as vertices and the crosspostings represented as edges *(See e.g.,* page 8, line 24 - page 9, line 5);

segmenting the graph into clusters;

merging clusters if the sum of the weights between clusters is greater than a threshold *(See e.g.,* page 27, line 27 - page 28, line 9); and

outputting the graph. *(See e.g.,* page 19, lines 15-16)

**E. Independent Claim 41**

Independent claim 41 recites a computer implemented system that facilitates analyzing news group clusters, comprising:

means for receiving and recognizing data relating to a plurality of newsgroups *(See e.g.,* page 8, lines 11-19); and

means for constructing a weighted graph with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges. *(See e.g.,* page 8, line 24 - page 9, line 5)

**F. Independent Claim 42**

Independent claim 42 recites a data packet that passes between at least two processes executing on one or more computer systems that facilitates generation of a weighted news group graph, comprising:

a field that stores a weighted graph representative of a plurality of news groups with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset of newsgroups represented as edges.

*(See e.g.,* page 8, line 24 - page 9, line 5; page 19, lines 15-16)

**VI. Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(I)(v))**

**A.** Whether claims 1-15,21-30,32-39,41 and 42 are directed to non-statutory subject matter under 35 U.S.C. §101.

**B.** Whether claims 1-41 are unpatentable under 35 U.S.C. §103(a) over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US 5,819,269).

**C.** Whether claims 42 is unpatentable under 35 U.S.C. §103(a) over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US 5,819,269).

**D.** Whether claims 35 and 38 are unpatentable under 35 U.S.C. §103(a) over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US Patent 5,819,269), and further in view of Gage *et al.* (US Patent 5,923,846).

## VII. Argument (37 C.F.R. §41.37(c)(1)(vii))

### A. Rejection of Claims 1-15, 21-30, 32-39, 41 and 42 Under 35 U.S.C. §101

Claims 1-15, 21-30, 32-39, 41 and 42 stand rejected under 35 U.S.C. §101 as being allegedly directed to non-statutory subject matter. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. The Federal Circuit has clearly established in *Eolas Techs., Inc.* v. *Microsoft Corp.*, 399 F.3d 1325, 1338 (Fed. Cir. 2005) and *AT&T Corp.* v. *Excel Communications, Inc.,* 172 F.3d 1352, 1358. (Fed. Cir. 1999) that inventions such as that claimed by applicant are statutory.

> This court must also decide whether software code made in the United States and exported abroad is a "component of a patented invention" under 271(f) ... Section 271(f) refers to "components of a patented invention." ... Title 35, section 101, explains that an invention includes "any new and useful process, machine, manufacture or composition of matter."... Without question, ***software code alone qualifies as an invention eligible for patenting under these categories,*** at least as processes. *Eolas Techs., Inc.* v. *Microsoft Corp.*, 399 F.3d 1325, 1338 (Fed. Cir. 2005). (Emphasis added).

The Federal Circuit in *Eolas Techs., Inc.* v. *Microsoft Corp.* clearly established that software code alone is statutory subject matter. Independent claims 1, 30, and 41 recite a ***computer implemented system***. A system by itself is statutory subject matter. By the standards set forth in the above decision, a computer implemented system clearly falls within the categories of statutory subject matter. Independent claim 21 recites a ***computer implemented method*** and the above identified decision clearly states that software as a process falls within the categories of statutory matter.

Furthermore, the subject claims produce a useful, concrete, and tangible result.

> Because the claimed process [method] applies the Boolean principle to produce a useful, concrete, tangible result ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp.* v. *Excel Communications, Inc.,* 172 F.3d 1352, 1358. (Fed. Cir. 1999); *See State Street Bank & Trust Co.* v. *Signature Fin. Group, Inc.,* 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998) (finding a system implementing a financial management structure satisfied § 101 because it constituted a practical application of a mathematical algorithm by producing a useful, concrete and tangible result).

As provided above, the legal standard set forth by the Federal Circuit in *AT&T Corp.* v. *Excel Communications, Inc* for determining whether a claim is directed towards statutory subject matter is whether a claim can be applied in a practical application to produce a useful, concrete, and tangible result. The Final Office Action concedes that the invention produces a useful and concrete result, but asserts that no tangible result is produced. On the contrary, the invention produces a weighted graph with newsgroups as the vertices and cross-postings as

the edges. The weighted graph is a tangible result that can be employed by a system or human for analysis. The Examiner's contention that no tangible result is produced is not supported by the reality of how computers systems operate. The claims recite a computer implemented system which inherently implies that the weighted graph at some point is stored on a computer readable medium, such as a hard drive, RAM memory or cache memory. In order for a computer implemented system to process data and produce any result, some form of storage, at least temporary storage, such as data registers or cache must be employed. Therefore, the result is stored. For example, independent claims 1 and 30 recite *a computer implemented system ... engine that constructs a* 6 *weighted graph,* independent claim 41 recites *a computer implemented system ... means for constructing a weighted graph,* and independent claim 21 recites *a computer implemented method ... constructing a weighted graph.* By the very nature of how computer systems process data to produce a result, the weighted graph that is produced is inherently at least stored within a cache, RAM or disk storage for some period of time. There is no computer system that can produce a result without at least some type of temporary storage means. Therefore, the claims inherently produce a tangible result in the form of at least a weighted graph. Independent claim 42 recites ***processes executing on one or more computer systems ... a field that stores a weighted graph,*** which clearly provides for a tangible stored result. It is clear that the resulting stored weighted graph produced in the subject claims is tangible. In view of at least the foregoing, it is readily apparent that applicants'

invention as recited in independent claims 1, 21, 30, 41 and 42 (and associated dependent claims 2-15, 22-29, 32-39) is statutory subject matter and produces a useful, concrete, and tangible result. Accordingly, reversal of this rejection is respectfully requested.

**B. Rejection of Claims 1-41 Under 35 U.S.C. §103(a)**

Claims 1-41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US 5,819,269). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Ding and Uomini, alone or in combination, do not teach or suggest each and every limitation of applicants' claimed invention.

> To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP §706.02G). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicants' disclosure. *See In re Vaeck,* 947 F.2d 488,20 USPQ2d 1438 (Fed. Cir. 1991).

The subject claims relates to organizing newsgroups into clusters based upon cross posts between newsgroups. A weighted graph is constructed with

newsgroups as the vertices and cross-posts between newsgroups as the edges to facilitate analysis of the degree to which newsgroups are related. In particular, independent claim 1 (and similarly independent claims 21, 30 and 40-42) recites *an engine that constructs a weighted graph with a subset of the* ***newsgroups represented as vertices of the graph, and cross-postings relating to the subset of newsgroups represented as edges***.

Ding and Uomini do not teach or suggest the aforementioned claimed features of applicants' invention and also provide no motivation to be combined. To the extent Ding relates in any manner to applicants' claimed invention, it merely teaches clustering of data - there is no teaching or suggestion that the vertices of a weighted graph are newsgroups and that the edges are cross posts between the newsgroups as in the claimed invention. Ding is concerned with clustering data related to tissue sample and gene responses to understand what role genes play in diseases. The prior art reference states, "We briefly introduce the min-max cut graph partition and clustering method very recently developed for internet news group clustering" which is the single reference to internet news group clustering in the cited art. Ding goes on to describe the min-max cut algorithm in generic terms describing a weighted graph G with weight matrix W. Ding provides no details as to how this clustering method is used with regard to Internet news group clustering and specifically fails to disclose what the vertices and edges are in the weighted graph. Ding is silent regarding newsgroups as vertices and cross-postings between newsgroups as the edges, which would allow

for determining the degree that news groups are related based upon the number of cross po stings between them. As stated above, Ding is concerned with how this method might be used for tissue sample data clustering. It appears in the Examiner's Answer dated February 7, 2007, that the Examiner is implicitly attempting to introduce a new grounds of rejection by citing an additional reference (Ding-2001) in support of his position. Applicants' representative requests that the Examiner explicitly cite new grounds of rejection and re-open prosecution if this was the intent of the discussion of the additional prior art reference. Ding 2001 provides a detailed description of the Min-Max Cut algorithm and provides a brief description of an experiment in document clustering using the algorithm. However, even the Examiner's discussion of the additional reference asserts that Ding 2001 discloses documents as vertices and common words as edges. This would determine the degree that documents are related based upon common words within the documents. Ding 2001 is also silent regarding newsgroups as vertices and cross-postings between newsgroups as the edges.

Moreover, Uomini discloses a method for posting messages to newsgroups and including category and sub-category fields in the header of the post to allow for categorization of posts beyond the basic news group categories provided by news group management entities. This allows users of the system to effectively create new newsgroups without having to engage in the long processes established by the newsgroup management entities for creating a new newsgroup. The cited

art makes a brief mention of cross-posting to multiple newsgroups, though, only with respect to stating that it is possible to do so when posting a message. Uomini is silent regarding news group clustering and weighted graphs, and thus does not makeup for the deficiencies of Ding with regard to teaching that the vertices of a weighted graph are newsgroups and that the edges are cross posts between the news groups.

Furthermore, Ding is concerned with clustering of tissue samples and Uomini is concerned with categorization of news group postings. The references are not analogous, and provide no motivation to be combined as suggested. However, *assuming arguendo* that the references could be combined, the combined references still fail to teach or suggest that newsgroups are represented as vertices of a weighted graph, and cross-postings relating to the newsgroups are represented as edges. The Examiner's asserts that since Ding makes a reference to Internet newsgroups along with weighted graphs and Uomini makes a reference to crosspostings that it would have been obvious to create a weighted graph with newsgroups as the vertices and cross-postings as the edges. However, as discussed above, Ding only makes a casual reference to Internet news groups and does not provide any disclosure as to how they are used in relation to a weighted graph. Moreover, Uomini only makes a casual reference to crosspostings in news groups without any discussion of weighted graphs. The combination of references is silent regarding producing a weighted graph with newsgroups as the vertices and cross-postings as the edges. Therefore, the combination of Ding and Uomini

do not make any suggestion of a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges.

In view of the foregoing, applicants' representative respectfully submits that Ding and Uomini, alone or in combination, fail to teach or suggest all limitations of applicants' invention as recited in independent claims 1, 21, 30 and 40 and 41 (and claims 2-20, 22-29 and 31-39 that depend there from), and thus fails to make obvious the subject claimed invention. Accordingly, reversal of this rejection is respectfully requested.

**C. Rejection of Claims 42 Under 35 U.S.C. §103(a)**

Claim 42 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US 5,819,269). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Ding and Uomini, alone or in combination, do not teach or suggest each and every limitation of applicants' claimed invention.

Independent claim 42 recites *a field that stores* ***a weighted graph representative of a plurality of newsgroups with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset ofnewsgroups represented as edges***. As discussed above with respect to independent claims 1, 21, 30 and 40 and 41, the combination of Ding and Uomini

do not teach or suggest a weighted graph representative of a plurality of newsgroups with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset of news groups represented as edges. Therefore, reversal of this rejection is respectfully requested.

**D. Rejection of Claims 35 and 38 Under 35 U.S.C. §103(a)**

Claims 35 and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini (US Patent 5,819,269), and further in view of Gage *et al.* (US Patent 5,923,846). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Ding, Uomini and Gage *et al.,* alone or in combination, do not teach or suggest each and every limitation of applicants' claimed invention.

Claims 35 and 38 depend from independent claim 30. As noted *supra,* Ding and Uomini do not teach or suggest each and every element of the subject invention as recited in independent claim 30 and Gage *et al.* fails to make up for the deficiencies of Ding and Uomini with regard to this independent claim. Gage *et al.* discloses a method of uploading and downloading files from a bulletin board that are represented as objects within messages. The cited art is silent regarding news group clustering and weighted graphs. Therefore, Ding, Uomini, and Gage *et at.,* alone or in combination, fail to teach or suggest a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings

relating to the subset of news groups represented as edges. For at least this reason, reversal of this rejection is respectfully requested.

**D. CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully Submitted,

Dated: August 26, 2009

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## VIII. Claims Appendix (37 C.F.R. §41.37(c)(1)(vii))

1. A computer implemented system that facilitates analyzing news group clusters, comprising the following computer executable components:

a data reception component that receives and recognizes data relating to a plurality of news groups; and an engine that constructs a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings relating to the subset of news groups represented as edges.

2. A search engine comprising the system of claim 1.

3. The system of claim 1, further comprising a segmenting component that segments the weighted graph *via* spectral clustering.

4. The system of claim 3, the segmenting performed as a function of a number of crosspostings between newsgroups.

5. The system of claim 4, the segmenting component partitioning vertices of the weighted graph into segments so that a total number of edges between different segments is substantially minimized.

6. The system of claim 5, wherein the segmenting component partitions segments recursively.

7. The system of claim 3, further comprising a post-processing component that merges a first cluster into a second cluster if a sum of weights between the clusters is greater than a threshold.

8. The system of claim 7, the threshold being a function of sum of weights of an edge adjacent to the first cluster.

9. The system of claim 8, wherein two clusters are merged when sum of the weights of edges between a first cluster and a second cluster is more than half of a sum of weights of edges adjacent to the first cluster.

10. The system of claim 1, further comprising a filtering component that facilitates excluding particular news groups from being represented in the weighted graph so as to facilitate reducing the size of the graph.

11. The system of claim 10, wherein the filtering component excludes newsgroups which do not contain a threshold number of postings.

12. The system of claim 10, wherein the filtering component excludes newsgroups by utilizing an implicitly trained classifier that infers the type of news group desired by a user.

13. The system of claim 1, further comprising a paring component that trims edges of the weighted graph with weight less than a threshold weight.

14. The system of claim 13, wherein the threshold weight is an increasing function of size of the data to be graphed.

15. The system of claim 14, the paring component removes vertices when the vertices are not interconnected by edges to a threshold number of vertices.

16. The system of claim 1, upon generation of the weighted graph such weighted graph is relayed to a data store.

17. The system of claim 16, news group data received by the data reception component is relayed to the data store.

18. They system of claim 1 outputs the weighted graph to a display device.

19. The system of claim 18 displays the weighted graph textually.

20. The system of claim 1, embodied in a computer readable medium.

21. A computer implemented method for creating a weighted news group graph comprising the following computer executable acts:

receiving and recognizing data relating to a plurality of news groups; and

constructing a weighted graph such that news groups are represented as vertices and cross-posts are represented as edges.

22. The method of claim 21, further comprising excluding one or more newsgroups from the weighted graph when the one or more newsgroups does not contain a threshold of postings.

23. The method of claim 21, further comprising excluding one or more news groups from the weighted graph by utilizing implicitly trained classifiers.

24. The method of claim 21, further comprising segmenting the weighted graph into clusters.

25. The method of claim 24, wherein a spectral clustering algorithm is utilized to segment the weighted graph into clusters.

26. The method of claim 25, wherein the spectral clustering algorithm is applied recursively to the weighted graph.

27. The method of claim 26, wherein the spectral clustering algorithm comprises:

calculating vector $v$ by solving an equation $Lv = \lambda Dv$, wherein $L = D - A$ is the Laplacian of the adjacency matrix $A = (\alpha_{ij})$, $D$ is a diagonal matrix with $d_{ii} = \Sigma_j \alpha_{ij}$, and $\lambda$ is the second smallest eigenvalue of $L$;

determining maximum and minimum values contained within vector $v$;

dividing an interval between the maximum and minimum values of $v$ into $Q$ smaller intervals;

locating a smallest *Mcut* ratio at endpoints of the $Q$ intervals, wherein $S$ and $\overline{S}$ are two segments resulting from a proposed cut, $cut = \sum_{i \in S, j \in \overline{S}} - \alpha_{ij}$ , and $Mcut = cut/W_s + cut/W\overline{s}$ ;

calculating a minimum *Mcut* ratio of an integer $P$ eigenvector entries before and after the endpoint found to have a lowest *Mcut* ratio of the $Q$ intervals;

comparing the minimum *Mcut* ratio of the $P$ eigenvector entries to a threshold $t$; and

segmenting the eigenvector entry where the minimum *Mcut* ratio is found if the *Mcut* ratio is less than the threshold $t$.

28. The method of claim 24, further comprising merging the segmented clusters if the weights of edges between clusters is greater than a threshold.

29. The method of claim 28, the threshold being a function of sum of weights of an edge adjacent to the first cluster.

30. A computer implemented system that facilitates analyzing newsgroup clusters, comprising the following computer executable components:

a data reception component that receives data relating to a plurality of news groups;

an engine that constructs a weighted graph with a subset of the news groups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges; and further comprising at least one of the following components:

a filtering component that facilitates excluding particular newsgroups from being represented in the graph so as to facilitate reducing the size of the graph;

a paring component that trims edges of the graph with weight less than a threshold weight so as to facilitate reducing the size of the graph;

a segmenting component that segments the graph *via* spectral clustering; and

a post-processing component that merges a first cluster into a segment cluster if a sum of weights between the clusters is greater than a threshold.

31. The system of claim 30, further comprising a data store for storing at least one of the following:

news group data received by the data reception component;

algorithms utilized for segmenting the weighted graph;

the weighted graph generated by the graphing engine; and

the segmented graph upon the weighted graph being segmented *via* the segmenting component.

32. The system of claim 30, the post-processing component outputting the modified weighted graph.

33. A search engine, comprising the system of claim 30.

34. A news group browser comprising the system of claim 30.

35. An email program comprising the system of claim 30.

36. A search engine employing the system of claim 30.

37. A news group browser employing the system of claim 30.

38. An email program employing the system of claim 30.

39. The system of claim 30 utilized to facilitate clustering of news groups related to buying and selling of goods and services.

40. A computer implemented method for creating a cluster graph comprising the following computer executable steps:

receiving news group data;

excluding news groups that do not contain a threshold number of postings;

paring edges with weight below a threshold;

generating a weighted graph with the news groups represented as vertices and the crosspostings represented as edges;

segmenting the graph into clusters;

merging clusters if the sum of the weights between clusters is greater than a threshold; and

outputting the graph.

41. A computer implemented system that facilitates analyzing news group clusters, comprising:

means for receiving and recognizing data relating to a plurality of news groups; and

means for constructing a weighted graph with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset of news group s represented as edges.

42. A data packet that passes between at least two processes executing on one or more computer systems that facilitates generation of a weighted news group graph, comprising:

a field that stores a weighted graph representative of a plurality of news group s with a subset of the newsgroups represented as vertices of the graph, and cross-postings relating to the subset of newsgroups represented as edges.

## IX. Evidence Appendix (37 C.F.R. §41.37(c)(1)(i))

None.

## X. Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))

None.